Amendments to the Drawings

Please replace sheets 1-3 with replacement sheets 1-3, attached hereto. The replacement sheets replace hand-written designations with typed designations.

REMARKS

I. Status of Claims

Claims 1-20 are pending.

Claims 1-4 and 8-20 stand rejected.

Claims 5-7 are objected to.

II. Objections to the Drawings

The examiner has objected to Figures 1-3 because they contain handwritten reference numbers and pointers to certain elements. Replacement sheets are attached hereto wherein all handwriting has been replaced with typed lettering/numbering.

III. Double Patenting

The examiner has objected to Claim 20 under 37 CFR 1.75 as being a substantial duplicate of claim 16. The applicant has cancelled claim 20.

IV. Claim Rejections- 35 USC § 103

The examiner has rejected claims 1-4, 9 and 11-20 under 35 U.S.C. 103(a) as being unpatentable over Hellums et al. (6384664) in view of Kim et al. (6346738). The applicant has cancelled claims 1, 2, 4, 12, 17 and 20 and responds to the examiner's rejection of the remaining claims.

Claims 3 and 9.

As amended, Claim 3 includes the elements of original independent claim 1 and the phrase "wherein the detection elements of the first arm and the second arm have different resistances." Claim 9, as amended herein, depends from claim 3 and includes the language: "wherein the fuse under detection and the reference fuse have the same resistance prior to programming or burning the fuse under detection." The examiner has rejected claims 3 and 9 noting that Hellums does not specify that the fuse under detection and the reference fuse have the same resistance while the first and second detection arms have different resistances, but stating that it would have been obvious to combine Hellums with Kim, which the examiner claims discloses that the resistance of the fuse under detection and the reference fuse have the same resistance and that Kim discloses first and second detection arms with different resistances.

As amended, claim 3 states that the detection elements of the first and second arm have different resistances. The detection elements of the first and second arm of Kim do not include NM5 and therefore, the detection elements of the first and second arms of Kim do not have different resistances. Further, the applicant disputes that Kim discloses first and second detection arms with different resistances. The resistance of the fuse burning transistor NM5 (Kim, Fig. 3) that the examiner cites as creating different resistances in the first and second arms would be negligible in the open state that the transistor would be in during the detection operation. Moreover, there would be no motivation to combine Kim with Hellums to create a detection circuit with the

detection elements of the first and second arms having different resistances. The negligible resistance difference in Kim is a side-effect of the need for a fuse-burning transistor and this negligible difference in first and second arm resistances serves no useful function in and of itself. Kim relies on the fact that "even if the first fuse F1 is not precisely cut, a resistance value of the first fuse, F1 is increased to some appreciable extent . . . so much more current is provided to the second node. " Kim, column 3, lns. 50-56. The additional resistance of NM5 in Kim would have no effect in a circuit that relies on a resistance increase of an appreciable extent. Thus there would be no motivation to combine Kim with Hellums to have different resistances of the first and second arms.

For these reasons, the applicant traverses the examiner's rejection of claims 3 and 9, and requests that his rejection be withdrawn and these claims be allowed in their present form.

Claim 8.

As amended, claim 8 depends from independent claim 3 and states: "the first arm and the second arm have respective transistors of different multiples of a gate width to gate length ratio." The examiner has rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over Hellums et al. (6384664) in view of Beasom (4210875).

The examiner has stated that Beasom discloses adjustment of the gate width to length ratio of one transistor in a fuse testing device for adjusting the offset voltage and that it would have been obvious to combine the teaching of Hellums with Beasom "in order to be able to increase the gate to source voltage (col 3 line 42-43) of the reference arm when the fuse is blown to equate the voltages to avoid dangerous conditions." The applicant disagrees. The adjustment of gate to source voltage to avoid dangerous conditions as in Beasom would not have motivated one of ordinary skill to combine Hellums with Beasom at the time applicant's invention was made. Beasom adjusts length to width ratio to balance the differential amplifier for an "exact match." Col. 1 lns. 11-16. As amended, the modification of length to width ratios in claim 8 intentionally sets up a mismatch between the first and second legs. This is further reflected in the language of claim 3, which states that the "first arm and the second arm have different resistances." Thus, where claim 8 requires transistors of different multiples of length to width ratio, Beasom teaches away from claim 8 by teaching that the parallel circuits should be matched. Thus, there would be no motivation to combine Beasom with Hellums to provide transistors of different multiples of gate width to length ratio.

For the above-stated reasons and because claim 8 depends from claim 3, which the applicant has demonstrated as allowable, the applicant traverses the examiner's

rejection of claims 8 and requests that his rejection be withdrawn and the claim be allowed in its present form.

Claim 10.

Claim 10 as amended depends from claim 3 and states: "said different resistances are proportioned relative to one another to adjust burned-state detection threshold for the fuse under detection." The examiner has rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over Hellums et al. (6384664) in view of Lim et al. (6498526). The examiner cites Lim as disclosing first and second arms having different resistances, and said different resistances being proportioned relative to one another to adjust sensitivity to a status of the fuse under detection. (col 4 line 37-col 5 line 43).

Contrary to the examiner's statement, there is no suggestion in Lim that relative resistance values are changed to adjust sensitivity or detection threshold. In fact, the word sensitivity does not appear anywhere in Lin. The "resistor difference" that is sensed in Lim is the difference between a burned fuse and a reference fuse, not a difference in resistance of the detection legs intentionally established to create a detection threshold. Lin, column 5 line 45-50. Claim 10 requires that the different detection leg resistances, not fuse resistance, are proportioned relative to one another to adjust burned-state detection threshold. There is no suggestion in Lim to modify detection leg resistance to adjust burned-state detection threshold.

For the above-stated reason and because claim 10 depends from claim 3, which the applicant has demonstrated to be allowable, the applicant traverses the examiner's rejection of claims 8 and requests that his rejection be withdrawn and the claim be allowed in its present form.

Claims 11, 13-16, 18 and 19

The examiner has rejected claims 11-20 under 35 U.S.C. §103(a) as being unpatentable over Hellums (6384664) in view of Kim (6346738). As amended, claim 11 states "setting the resistance of said first arm and said second arm to be different values in order to establish a burned-state detection threshold." Neither Hellums nor Kim disclose or suggest that the first and second detection arms have different resistance values in order to adjust burned-state detection threshold. As noted above, neither does Lin disclose this.

For the above-stated reason , the applicant traverses the examiner's rejection of claim 11 and claims 13-16, 18 and 19, which depend from claim 11, and requests that his rejection be withdrawn and these claims be allowed in their present form.

V. Allowable Subject Matter (claims 5-7)

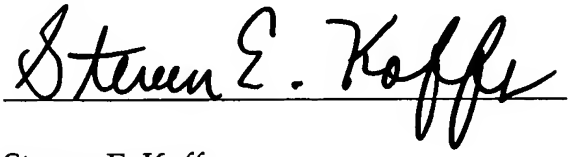
The examiner has objected to claims 5-7 as being dependent upon a rejected base claim, but noted that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 5 has been amended herein to independent form, including all of the limitations of claim 1 from which it depended. Claims 6 and 7 are unaltered as they depend directly from claim 5. The applicant requests that the examiner withdraw his objections to claims 5-7 and allow them in their present form.

VI. Conclusion

In view of the foregoing amendments and remarks, Applicant submits that this application is in condition for allowance. Early notification to that effect is respectfully requested. The Assistant Commissioner for Patents is hereby authorized to charge any additional fees or credit any excess payment that may be associated with this communication to deposit account 04-1679.

Respectfully submitted,



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